

Prevalence of UGT1A1 polymorphisms in gastrointestinal cancer:

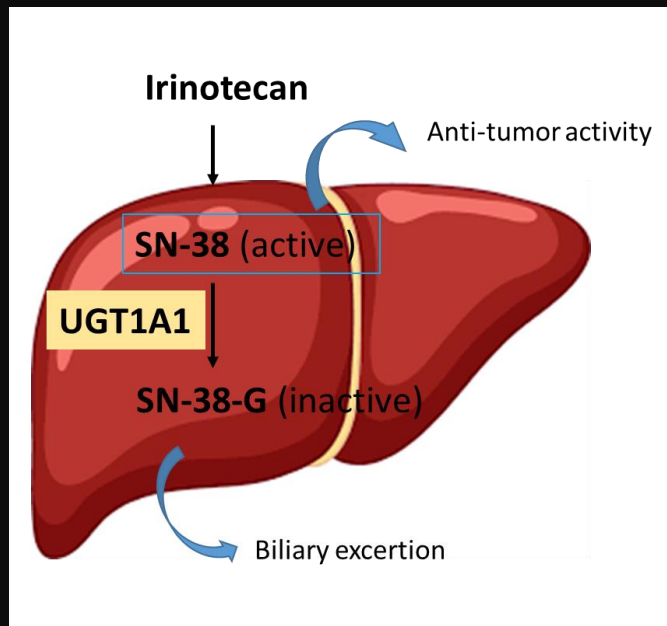
A single-institutional retrospective study

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Disclosure of Conflicts of Interest

Bei Jiang, MD, PhD, has no relevant financial relationships to disclose.

UGT1A1 polymorphisms conferring increased risk of irinotecan related neutropenia and diarrhea



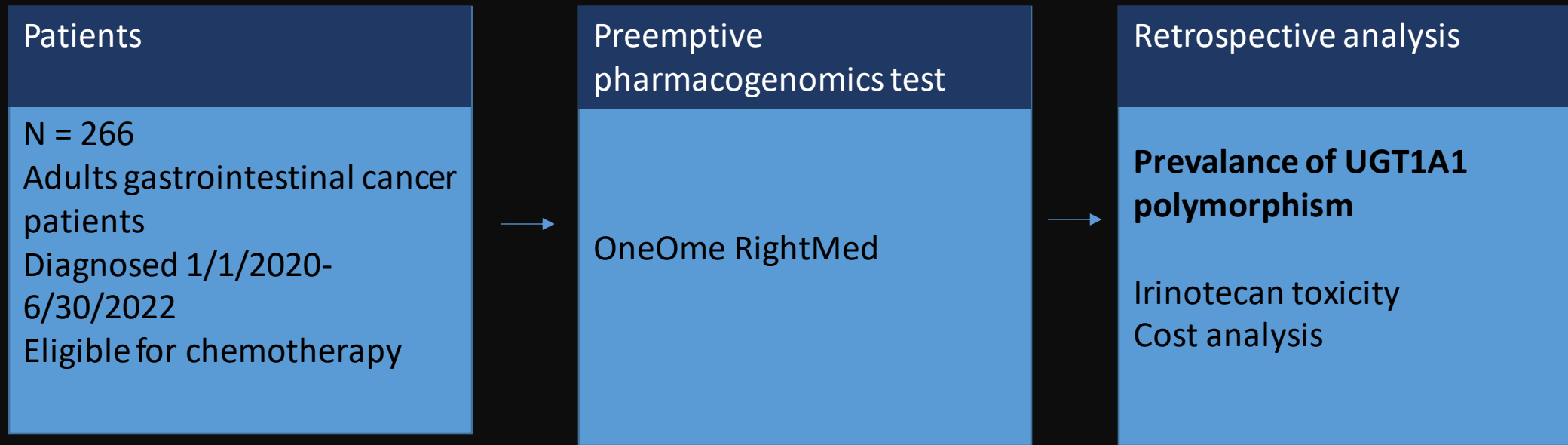
Common UGT1A1 polymorphism and associated risk for irinotecan toxicity

Classification	Genotype	Phenotype	UGT Enzyme Activity	Irinotecan related neutropenia and diarrhea
Wild-type	*1/*1	Normal metabolizer		+
Heterozygous	*1/*28 *1/*6	Intermediate metabolizer		++
Homozygous	*28/*28 *6/*6 *6/*28	Poor metabolizer		+++

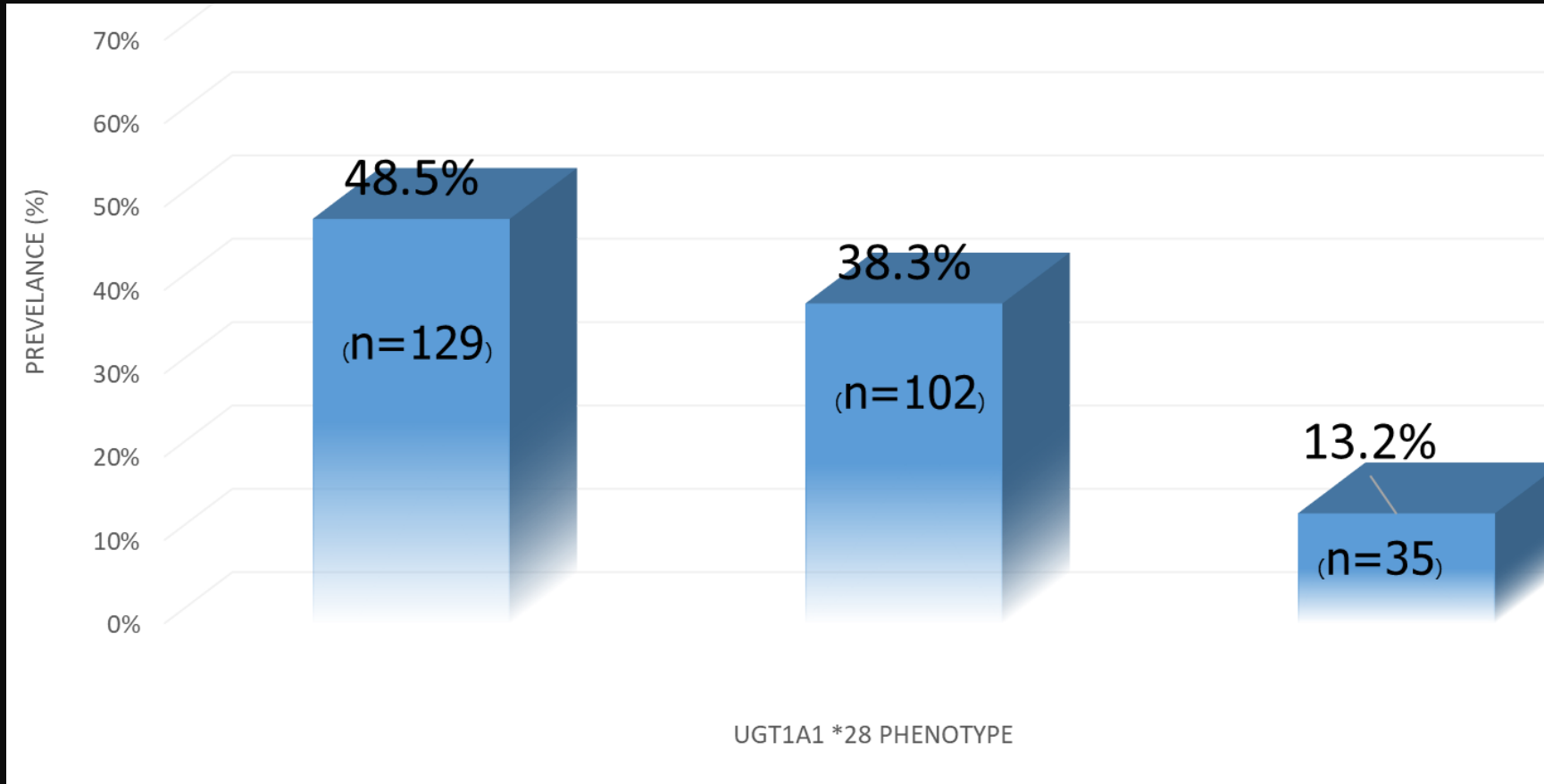
UGT1A1 *28 polymorphisms is frequent in European population

UGT1A1 polymorphisms: Common allele frequencies			
	<u>African</u> <u>ancestries</u>	<u>European</u> <u>ancestries</u>	<u>East Asian</u> <u>ancestries</u>
UGT1A1*28 allele	43%	39%	16%
UGT1A1*6 allele	0.1%	1%	15%

A retrospective study of the prevalence of UGT1A1 polymorphisms in gastrointestinal cancer at West Virginia University



Overall prevalence of UGT1A1*28 polymorphism in GI cancer patients in the Appalachian region is 51.5%



Demographic	N (%)
Age (years) median [range]	66 [28-92]
Weight (kg) mean ± SD	80.5 ± 22.4
Female	119 (45)
Metastatic	146 (55)

Cancer Type	N (%)
Colon <i>Metastatic</i>	81 (30.5) 53 (65)
Pancreatic <i>Metastatic</i>	80 (30) 42 (52.5)
Rectal <i>Metastatic</i>	35 (13.2) 14 (40)
Cholangiocarcinoma <i>Metastatic</i>	14 (5.3) 9 (65)
Esophageal <i>Metastatic</i>	20 (7.5) 12 (60)
Other <i>Metastatic</i>	12 (4.5) 7 (58.3)
Gastric <i>Metastatic</i>	11 (4.1) 6 (54.5)
Anal <i>Metastatic</i>	8 (3) 0 (0)
Appendiceal <i>Metastatic</i>	5 (1.9) 3 (60)

Future direction

Dose UGT1A1 genotype based irinotecan therapy improve outcome ?

**Irinotecan
toxicity**

Cost

Response

Survival

Thank you